

revolutions per minute for 30 minutes represents more than 50 % of the weight of the silica present in the suspension.

23. An aqueous suspension according to Claim 22, wherein said solids content is between 15 and 35 % by weight.

24. An aqueous suspension according to Claim 22 wherein said viscosity is lower than  $2 \times 10^{-2}$  Pa.s at a shear rate of  $50 \text{ s}^{-1}$ .

25. An aqueous suspension according to Claim 22, wherein the amount of silica present in the supernatant obtained after centrifuging said suspension at 7500 revolutions per minute for 30 minutes represents more than 60 % of the weight of the silica present in the suspension.

26. An aqueous suspension according to Claim 22, wherein the amount of silica present in the supernatant obtained after centrifuging said suspension at 7500 revolutions per minute for 30 minutes represents more than 70 % of the weight of the silica present in the suspension.

27. An aqueous suspension according to Claim 22, wherein the amount of silica present in the supernatant obtained after centrifuging the said suspension at 7500 revolutions per

minute for 30 minutes represents more than 90 % of the weight of the silica present in the suspension.

*Sub H2*  
~~28. An aqueous suspension according to Claim 22, wherein the particle size distribution of the agglomerates in suspension is such that their median diameter D50 is smaller than 5  $\mu$ m and the deagglomeration factor FD is greater than 3 ml.~~

*Sub G2*  
*a1*  
~~29. An aqueous suspension according to Claim 22, comprising a <sup>crumbled</sup> filter cake originating from a reaction of precipitation of silica and crumbled.~~

30. An aqueous suspension according to Claim 22, including aluminum in a quantity such that the Al/SiO<sub>2</sub> weight ratio is between 1000 and 3300 ppm.

*Sub G3*  
~~31. A method for the preparation of an aqueous suspension of precipitated silica, which solids content is between 10 and 40% by weight, which viscosity is lower than  $4 \times 10^{-2}$  Pa.s at a shear rate of  $50 \text{ s}^{-1}$  and wherein the amount of silica present in the supernatant obtained after centrifuging said suspension at 7500 revolutions per minute for 30 minutes represents more than 50% of the weight of the silica present in the suspension, comprising the steps of:~~

Sub 3  
cont

(A) precipitating silica by reacting an acidifying agent with an alkali metal (M) silicate, whereby:

(i) an initial base stock is formed, comprising a proportion of the total amount of the alkali metal silicate introduced into the reaction, the silicate concentration expressed as  $\text{SiO}_2$  in the said base stock being lower than 20 g/l,

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(ii) the acidifying agent is added to the said initial base stock until at least 5 % of the amount of  $\text{M}_2\text{O}$  present in the said initial base stock is neutralized,

(iii) the acidifying agent is added to the reaction mixture simultaneously with the remaining amount of alkali metal silicate such that the ratio (amount of silica added)/(amount of silica present in the initial base stock) is between 10 and 100;

(B) separating from the reaction mixture a precipitation cake which has a solids content of between 10 and 40%; and

(C) deagglomerating the said cake to obtain a suspension of low viscosity.

Sub 4

32. A method according to Claim 31, comprising after step (B), the addition to the said precipitation cake, of an amount of silica powder, such that the solids content of the silica-enriched cake is between 10 and 40%.

*SUB #4*  
33. A method according to Claim 31, comprising, in step (C), the dilution of the said precipitation cake with water.

34. A method according to Claim 31, comprising, in step (C), the mechanical crumbling of said precipitation cake by a wet grinding process or by an ultrasonic treatment.

*a1*  
35. A method according to Claim 31, comprising, in step (C), a chemical crumbling simultaneously with a mechanical crumbling, the said chemical crumbling being carried out by acidifying the silica suspension to a pH lower than 4.

36. A method according to Claim 31, comprising, in step (C), a chemical crumbling conjointly with a mechanical crumbling, said chemical crumbling being carried out by introducing sulphuric acid and sodium aluminate simultaneously so that the pH of the suspension remains between 6 and 7 and the Al/SiO<sub>2</sub> weight ratio is between 1000 and 3300 ppm.

37. A method according to Claim 31, comprising, in step A (iii), the addition to the reaction mixture of simultaneously sulphuric acid and sodium aluminate, so that the pH of the mixture remains between 6 and 7 and the Al/SiO<sub>2</sub> weight ratio is between 1000 and 3300 ppm, before proceeding to step (B).

SubB4  
38. A method according to Claim 31, wherein, in step (C),  
(i) said precipitation cake is washed with one or more organic solvents and the cake thus washed is dried to obtain a silica powder, and

(ii) an amount of the said silica powder is suspended in water, such that the solids content of the final suspension is between 10 and 40%.

a1  
39. A method for the preparation of an aqueous suspension of precipitated silica, which solids content is between 10 and 40% by weight, which viscosity is lower than  $4 \times 10^{-2}$  Pa.s at a shear rate of  $50 \text{ s}^{-1}$  and wherein the amount of silica present in the supernatant obtained after centrifuging the said suspension at 7500 revolutions per minute for 30 minutes represents more than 50 % of the weight of the silica present in the suspension, comprising the steps of :

(A) precipitating silica by reacting an acidifying agent with an alkali metal (M) silicate, whereby:

(i) an initial base stock is formed, comprising a proportion of the total amount of the alkali metal silicate introduced into the reaction, and an electrolyte, the silicate concentration, expressed as  $\text{SiO}_2$ , in the said initial base stock being lower than 100 g/l and the electrolyte concentration in the said initial base stock being lower than 17 g/l;

*Subpart  
cont*

(ii) the acidifying agent is added to said base stock until a pH value of the reaction mixture of at least approximately 7 is obtained;

(iii) the acidifying agent, and if appropriate, the remaining amount of the silicate are added simultaneously to the reaction mixture;

(B) separating from the reaction mixture a precipitation cake which has a solids content of between 10 and 40%; and

(C) deagglomerating the said cake to obtain a suspension of low viscosity.

*A1  
SUBP 6*

40. A method according to Claim 39, comprising, after step (B), the addition of an amount of silica powder to the said precipitation cake, such that the solids content of the silica-enriched cake is between 10 and 40%.

41. A method according to Claim 39, comprising, in step (C), the dilution of said precipitation cake with water.

42. A method according to Claim 39, comprising, in step (C), the mechanical crumbling of said precipitation cake by a wet grinding process or by an ultrasonic treatment.

43. A method according to Claim 39, comprising, in step (C), a chemical crumbling simultaneously with a mechanical

crumbling, the said chemical crumbling being carried out by acidifying the silica suspension to a pH lower than 4.

44. A method according to Claim 39, comprising, in step (C), a chemical crumbling conjointly with a mechanical crumbling, said chemical crumbling being carried out by introducing sulphuric acid and sodium aluminate simultaneously so that the pH of the suspension remains between 6 and 7 and the Al/SiO<sub>2</sub> weight ratio is between 1000 and 3300 ppm.

45. A method according to Claim 39, comprising, in step A (iii), the addition to the reaction mixture of simultaneously sulphuric acid and sodium aluminate, so that the pH of the mixture remains between 6 and 7 and the Al/SiO<sub>2</sub> weight ratio is between 1000 and 3300 ppm, before proceeding to step (B).

46. A method according to Claim 39, wherein, in step (C),

(i) the said precipitation cake is washed with one or more organic solvents and the cake thus washed is dried to obtain a silica powder, and

(ii) an amount of the said silica powder is suspended in water, such that the solids content of the final suspension is between 10 and 40 %.--